



**110th Meeting of the Scientific and Statistical Committee
Council Office
June 19-21, 2012**

SSC REPORT

4. NMFS PIFSC Science Center Directors Report

Mike Seki presented the NMFS PIFSC Science Directors report, which the SSC heard with interest.

The SSC made the following recommendations concerning funding of fisheries research. The Bureau of Ocean Energy Management provides funding for environmental and habitat analysis, including studies on marine mammals, seabirds and sea turtles. **SSC recommends sourcing BOEM funds for fisheries research in the Western Pacific.**

SSC supports the redirection of SK funds by Congress from NOAA/NMFS operations back to fisheries research and development, which was the original intention of the Act.

5. Program Planning

A. NMFS Science Plan

Mike Seki, PIFSC, presented a brief update on the status of the Science Plan prepared by the Science Center. The draft plan is currently being reviewed by the NMFS Chief Scientist, Richard Merrick. Although, the Science Center still expend time and effort on highly migratory species (HMS) particularly on stock assessment and management advice, the Science Plan appeared to focus mostly on insular research due to increasing domestic issues and nearly a decade of limited fisheries investigations. The SSC thanked Seki for the update and an informative presentation.

HMS science is a high priority for the SSC and the Council, and the SSC strongly endorses HMS research by the NMFS PIFSC, because technological advances (especially from electronic tagging) are increasingly providing scientists with alternative fishery independent data in support of stock assessment and management. The SSC suggested that funding sources for fishery management research in addition to NMFS must be sought in order to alleviate funding constraints.

B. Cooperative Research Priorities

Council staff presented the Cooperative Research priorities for American Samoa, Mariana Islands, Hawaii, and Pacific pelagics. **The SSC endorses the Plan Teams' cooperative research priorities. The SSC requests a presentation from PIFSC at the 111th SSC on the**

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interim results of the current bottomfish tagging projects in Hawaii, and look forward to reviewing results for similar tagging projects being conducted elsewhere in the region.

C. Fishery Data Collection Improvement Proposal

Council staff presented an overview of the Fishery Data Collection Improvement Proposal being developed by the Council in consultation with the local fishery management agencies and PIFSC. This proposal aims to implement projects that would support improvements in the data currently being collected in American Samoa, Guam, Northern Mariana Islands and Hawaii. The SSC observed that all eight components of the proposal are high priorities, particularly project 8 (fishermen and vendor incentive and outreach programs to enhance participation in creel surveys and vendor reporting).

D. Territorial EFH/HAPC review

Danielle Jayewardene, PIRO staff, presented an overview of the review of Essential Fish Habitat and Habitat Area of Particular Concern (EFH/HAPC) conducted by PIFSC and PIRO. A summary of the recommendations was presented for Council consideration in developing options for changes in EFH/HAPC designation for coral reefs, pelagics, precious corals, and bottomfish management unit species in Western Pacific Region. The SSC endorses closer collaboration between NMFS and Council on EFH consultations. The SSC thanked Ms. Jayewardene for an informative presentation.

The PIRO report fails to adequately link its HAPC proposals with any of the criteria for HAPC designations given in the MSA, and the NMFS guidance. The report also fails to justify extending biological information from Hawaii in the NMFS scientific review document to the rest of the Western Pacific Region. Finally, the report fails to show how existing and proposed no-take MPAs would alleviate impacts of military build-up or other development activities. **The SSC recommends that a WPSAR review be conducted on the Territorial EFH/HAPC once the PIRO review and analysis is completed.**

E. Archipelagic Plan Team Report and Recommendations

Council staff presented the recommendations from the Joint American Samoa-Mariana Archipelago FEP Plan Teams meeting in April 2012. **The SSC concurs with the Plan Teams recommendations.**

F. National Bycatch Report update

Jeremy Willson, PIRO staff, presented an overview of the recently released National Bycatch Report and thanked Mr. Willson for an informative presentation. The SSC noted that the bycatch ratio (defined as: bycatch [catch not retained] of a given species / total catch of that species) for some Hawaii caught fish stand out because of their very high values (100% in some cases). **The SSC would like to see it noted in the report that these fish are not likely ever to be retained to any appreciable extent. The report should also clarify that there is no US fishery for pelagic armorhead.**

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G. Status of Stocks Report

Adam Bailey, PIRO staff, presented the summary of the status of the stocks for the Western Pacific region taken from the recently released NMFS Status of the Stocks Report. The SSC thanked Mr. Bailey for an informative presentation.

H. Potential Revision of National Standard 1 Guidelines

Brett Wiedoff, PIRO staff, presented a summary of the Federal Register notice from NMFS seeking inputs from the public regarding the potential revision of the National Standard 1 guidelines. The advanced notice of proposed rulemaking was issued to gather information to address issues regarding the application of the guidelines that may result in potential revision. Mr. Wiedoff enumerated the various aspects of the NS1 guidelines on which NMFS is seeking comments. The SSC thanked Mr. Wiedoff for an informative presentation.

I. Hawaii Plan Team Meeting Report and Recommendations

Council staff presented the recommendations from the Hawaii/PRIA FEP Plan Team meeting of April 2012. The recommendation regarding exploring other data sources should be revised to include recreational data. The recommendation regarding bottomfish tagging through cooperative research should be revised to expand the tagging methods to include electronic tags (e.g. acoustic and archival tags) in order to address movement patterns across BRFA boundaries. **The SSC concurs with the Plan Team recommendations.**

J. CCC Meeting Report

Council staff presented a summary of the recently concluded Council Coordination Committee meeting held at the Manna Lani Resort, Kohala in May 2012. Staff provided an overview of the outcome statements from the meeting.

K. Data Principals Meeting

The Council Executive Director provided SSC with a brief summary of the Data Principals Meeting held in May 2012. The representatives from the various agencies endorsed the Fishery Data Collection Improvement Proposal for submission to NMFS for funding via the Enhanced Annual Stock Assessment Program and Marine Recreational Information Program.



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6. Insular Fisheries

A. Territory Bottomfish Stock Assessments

Jon Brodziak (PIFSC) presented the territorial bottomfish stock assessment update. All Kobe plots suggest that the fisheries are operating in safe quadrants. Stochastic projections were used to predict 2013-2014 P* (risk for overfishing). Guam is the only area which even approaches being a region of bottomfish stock concern, but only when conducting sensitivity tests for catches theoretical doubling or quadrupling. The SSC raised a number of concerns about the data used in the stock assessments, but recognized that these are the best available data.

The SSC concluded that the assessment is adequate to set management reference points in the short term. In the longer term, the following issues need to be addressed (points that have been previously raised in the WPSAR 2009 report):

- **Data Processing & CPUE standardization, specifically WPSAR review of data collection and processing procedures,**
- **Changes in species composition of catch over time,**
- **Adequacy of model structures and priors, specifically;**
 - **How the previous estimates of MSY were used in the model,**
 - **Exploring alternative models including hierarchical models that account for changing catch composition,**
 - **Extending diagnostics to better explore model fit and residual trends,**
- **Extend the range of priors to bracket full range posterior estimates, and**
- **Adequacy of the chosen model for management application including a full WPSAR review**

B. Bottomfish Restricted Fishing Area (BRFA) Review

Cordelia Moore (HDAR Contractor) presented the BRFA efficacy analysis using BotCam data.

The SSC raised concerns about the use of BotCam based sampling as the sole means to evaluate the efficacy of BRFAs, especially connectivity. **The SSC notes that initial results from the BRFA analysis indicate no measurable statistical difference in abundance within the BRFA and adjacent areas. Further, determining if there are significant effects of the BRFAs on**

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bottomfish size frequency and abundance may take an additional 10 years to be realized. The SSC suggested some additional approaches for evaluating the efficacy of BRFAs. These might include capture-mark-recapture of fish to assess dispersal and connectivity between potential seed source (BRFAs) and sinks (depleted sites); and video-based transect sampling to assess spatial and temporal abundance given imperfect detection within and outside BRFAs (also essential for reliable species distribution modeling)

There were questions from the audience as well as robust discussion regarding the initial rationale for the BRFA's and what the current research show. There were also concerns expressed about the long time frame that may be needed to assess the impacts of the BRFAs.

Regarding the MHI BRFAs, the SSC raised the following points for information to the Council.

- 1. The status of the Deep 7 bottomfish stock is healthy (not overfished nor overfishing occurring);**
- 2. The fishery operates under an Annual Catch Limit, based on a current stock assessment;**
- 3. The BRFAs have not been factored into the development and production of the accepted stock assessment;**
- 4. The fishery is now subject to near-real time monitoring through permitting and trip reporting;**
- 5. There has been no evidence presented to suggest that fishing mortality has been reduced through the implementation of the BRFAs**

C. Acoustic survey of Maui Bottomfish

Reka Domokos, PIFSC, presented findings from an active acoustics survey in 2011 of a small bottomfishing area located off Maui. Species identification from acoustic data is problematic; hence the data are presented as total biomass of the deepwater fish assemblage. Fish use a wide range of the water column with higher concentrations nearer the bottom at night. The SSC thanked Domokos for an informative presentation and looks forward to further updates on this work.

D. Action Item

1. Setting ABC for MHI Deep 7 bottomfish

Chris Boggs (PIFSC) presented material and a projected catch analysis to indicate that the likelihood of reaching the Deep-7 ACT this year is negligible based on current cumulative catch (~ 65% of the ACT) and historical patterns of catch rate.

Toby Wood (PIRO) reviewed the Council's approved approach for setting the ABC and ACL for MHI Deep-7 bottomfish. As there is no new stock assessment, the current data still suggest $ACL=ABC=346K$ pounds, with $ACT=325K$ pounds.

SSC discussed the option of rolling over the existing ACL/ACT values to the next year, in light of no significant new data. There was also discussion of revisiting the SEEM (Social, economic,

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ecological and Management Uncertainty) analysis.

Regarding the 2012-2013 ABC/ACL/ACT for the deep 7 bottomfish complex the SSC notes that it is highly unlikely that this year's ACT will be reached and recommends that the Council carry over the ABC and ACL based on the current stock assessment and consider keeping the current ACT of 325K pounds.

2. Hawaii Bottomfish EFH/HAPC

Mark Mitsuyasu presented some new additional EFH/HAPC issues for SSC review, as the amendment document is still awaiting further comment from PIRO. The issues included non-fishing impacts, the Kahala 2-species complex (only one species reporting code) and whether these should be designated CREMUS vs. BMUS, and Cross Seamount groundfish.

The Kahala/Kampachi issue raised concerns regarding changes to permit and reporting as required for CREMUS versus BMUS.

The SSC discussed these issues and suggests Council consider the following as it deliberates on the changes to Hawaii Bottomfish EFH and HAPC. Adding the minor species of Kahala, *Seriola rivoliana*, to the BMUS complex will not remove overall permitting and reporting requirements for the commercial harvest of this species. However, the monitoring regime through which commercial permitting and reporting will occur will change. Further confounding this issue is the status on the implementation of the Council's Aquaculture amendment which also establishes permit and reporting requirements for offshore aquaculture operations.

The SSC discussed potential impacts to the existing fisheries on the Cross Seamount should the Armorhead moratorium on Hancock Seamount be extended to include the proposed EFH/HAPC area around Cross Seamount. DAR provided information on commercial landings of armorhead and alfonsin from the Cross Seamount area and the Hawaii archipelago. Information from Cross Seamount is confidential as the total number of participants reporting landings of alfonsin is less than the minimum of three over the time period from 1980 to 2011. Statewide landings are minimal and only for alfonsin.



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7. Pelagic Fisheries

A. Action Item

1. Amendment Options for Marianas Purse Seine Area Closure

Council staff presented an update on the purse seine area closure for Marianas. There is little scientific basis to recommend changing the amendment options for the Mariana's purse seine area closure. CPUE analyses for skipjack and yellowfin for the troll fisheries in the Marianas revealed differences in trends for CNMI and Guam. The SSC considered possible proximity impacts of purse seine fisheries on troll fisheries and noted that there is a need to conduct additional stock assessment and modeling for these fishes as CPUE is probably a poor indicator of abundance. The SSC suggested that additional work be conducted with stock assessment in order to examine possible relationships between purse seine catches and impacts on troll fisheries CPUE. The latest WCPFC stock assessment for skipjack found that that the stock was not overfished and overfishing was not occurring, but concern for the possible contraction of the range of skipjack was noted. Increasing protection for skipjack via a larger boundary from 30 nmi/50-100 nm (Council preferred option) to 100 nmi may be desirable because of the high cultural value of skipjack as a fresh fish and direct targeting of skipjack, as well as concerns for food security, and time lags for fishery interactions.

The SSC suggests that although interaction analysis has not been conducted for this case, excluding purse seine fishing in the vicinity of the Marianas would reduce the possibility of interactions between local skipjack fisheries and a purse seine fishery, should such a fishery develop. Council staff will work with SSC members to strengthen the fisheries science and social science arguments in the amendment document.

B. American Samoa and Hawaii Longline Quarterly Reports

David Hamm (PIFSC) presented First Quarter 2012 highlights of the American Samoa Longline fishery. Russell Ito (PIFSC) also presented Hawaii First Quarter 2012 highlights, noting variability on big-eye tuna CPUE. The SSC showed a non-parametric decomposition of the temporal data and found that seasonality is a strong signal in the catch and may indicate changes in fishing behavior. **SSC recommends that changes in fishing variables (e.g., bait type, bait loss/reduction in bait predation, changes in fishing styles and sets) be examined to determine how such changes would affect CPUE.**

C. Post-release Mortality of Marlins and Other Pelagic Fish

1. Methods to Estimate Post-release Mortality

Mike Musyl (JIMAR) presented Methods to Estimate Post-release Mortality in Sharks and Billfish, and discussed their respective advantages and disadvantages. He suggested that a combination of meta-analysis and biochemical analyses is probably a more cost-effective approach in estimating post-release mortality.

2. Post-release Mortality in Striped and Blue Marlin

Chris Moyes (Queens University, Canada) presented results from this research on patho-physiological analysis to predict post release mortality in striped and blue marlin and blue sharks. He used five physiological parameters to distinguish between survivors and moribunds, and noted that stress responses are species-specific.

The SSC notes that post release patho-physiology studies are valuable for large pelagic fishes and bycatch species such as sea turtles, and recommends that this study be expanded to document physiological status, and to predict survivorship following fisheries interactions.

D. International Fisheries Meetings

1. WCPFC 8

Council staff presented on the outcomes of the WCPFC 8 meeting. During the meeting, there were major discussions on the renewal of conservation and management measure for tropical tunas; conservation and management measure for oceanic white tip sharks (north and south equator not in good shape, non-retention and safe release); and conservation and management measure to protect cetaceans from purse seine fishing operations (non-retention and safe release). It was also noted that the FFA/PNA vessel day scheme would use 2010 as a base year, which was a 30% increase on the 2001-2004 baseline, and that the Chinese BET allocation for 2012 was raised from 9,000 mt to 11,700 mt.

2. IATTC GAC/SAC

Council staff noted a repeat of recommendations made last year.

E. Pelagic Plan Team Report

There are no Pelagic Plan Team recommendations. Products of the meeting are mostly action items to improve the Pelagic Plan Team Report.



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8. Protected Species

A. Update on ESA and MMPA Actions

1. Report on NMFS PIRO Actions

Lance Smith (PIRO) presented on actions to date on various ESA Actions, several of which were overdue including:

- The Insular False Killer Whale final listing rule (with a lawsuit pending)
- The 12-month finding for the bumphead parrotfish status review
- The 90-day finding for the Hawaiian green turtle de-listing petition response
- The proposed rule for the loggerhead sea turtle critical habitat review.

PIRO staff also presented on actions to date on various MMPA Actions. The final rule decision for the False Killer Whale take reduction was overdue. PIRO staff pointed out a new assessment of the Hawaiian pelagic FKW abundance of around 1500 should result in a PBR three times the current value of 2.4. The SSC noted that the newly recognized Northwestern Hawaiian Islands FKW stock is estimated to be 552 individuals, and that this information was not available at the time the proposed listing of insular FKWs was published. **The SSC recommends that the Council request that this information be considered in the final listing decision by NMFS Protected Resources Division.**

2. Council Coordination Committee Jeopardy Panel

Council staff presented on a CCC panel to review the current state of ESA jeopardy determinations and to consider ways to improve incorporation of uncertainty into the determinations. The CCC panel discussed various issues and concluded that application of the ESA consultation process was inconsistent across regions. The panel recommended that RFMCs (and SSCs) be better integrated into the ESA consultation process. **The SSC thanked Council staff for an informative presentation and supported the CCC recommendation.**

B. Status Review Report of 82 Candidate Coral Species Petitioned Under the ESA

Rusty Brainard (PIFSC) presented on the status review to-date and advised that a 12-month finding should be made by December 1, 2012 proposing if any of 82 apparent species of corals

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warrant listing under the ESA. PIFSC staff outlined in more detail the status review report for the 82 coral species proposed for listing under the ESA that also included estimates of species-specific risk of extinction by 2100. Ocean warming and acidification were considered the most serious hazards for these species at the global scale. SSC is concerned that creating precise numerical risk values from qualitative categories is misleading to readers from the methodology applied to the study. It creates a false impression of precision in the decision-making.

The SSC suggested that the Report include the CVs for each of the 7 experts used to assess extinction risk of the 82 coral species.

The SSC acknowledges the comprehensiveness of this report but queries whether listing these species would be of any benefit to the conservation or protection of these coral species. For example, the SSC notes that climate change is the primary global threat to corals and ESA listing of these species may have significant impacts on fisheries management without any conservation benefit to corals. The assessment ranked threats from fisheries as relatively minor.

The SSC thanks Brainard for an informative presentation.

C. Marker Bigeye Tuna (≥ 100 lb) and Weak Hooks

Chris Boggs (PIFSC) summarized a previously reported study of weak circle hooks and the potential impact on bigeye tuna catch rates. The study found no difference between hook types. However, the experiment on weak hooks was only conducted in the October-December season when marker fish landings were unusually low. The new study was conducted to show the seasonality of marker fish catches and value and to illustrate how a hypothesized reduction in the largest fish catch rates on weak hooks might affect revenue. For example, if using weak hooks resulted in a 30% decline for marker bigeye, then there would be a 19% decline in revenue. SSC suggested conducting a similar experiment in the summer season when marker fish landings are high.

D. Sea Turtle Advisory Committee (STAC) Report and Recommendations

Council staff presented on a recent STAC meeting. It was noted that Council funding for the sea turtle program was reduced by around 80% in the 2011 fiscal year. Funding also continues to be limited in the 2012 fiscal year. The future funding direction will focus on projects related to (1) estimating key demographic parameters for at-risk sea turtle populations and (2) developing offset policies and strategies for compensatory mitigation of fisheries-related impacts on sea turtle populations. The SSC thanks Council staff for an informative presentation.